

# Jesse Eaton

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<https://jaebird123.github.io/>  
Python, C, Go, Javascript  
sklearn, xgboost, gcloud, Flyte

## Experience

**Senior Machine Learning Scientist, Freenome** September 2019 - Present

- Increased classification performance to industry high of 0.9 sensitivity at 0.9 specificity for detection of colorectal cancer by creating Freenome's core ML model
- Promoted iterations of important models by developing framework for model comparison
- Enabled explosive model development by refactoring and productionizing core custom model
- Streamlined user model reports by redesigned reporting and model diagnostic infrastructure
- Managed ML science intern leading to development of robust kmer model pipeline
- Increased performance relative to Protein and DNA signals by identifying RNA markers

**Machine Learning Research Engineer, Qeexo** February 2018 - April 2019

- Generated multiple experimental company products by fusing sensor data with efficient machine learning classifiers <https://www.youtube.com/watch?v=1S6irWy8G20>
- Compressed gradient boosting classifier to 20 kB size for highly time/space/energy constrained environments achieving < 5ms classification time
- Increased customer awareness by demoing projects at Consumer Electronics Show 2019

**Graduate ML Researcher, Carnegie Mellon** January 2017 - January 2018

- Developed theory for tumor deconvolution/phylogenetic inference using structural variants
- Led design and developed machine learning pipeline for predicting tumor progression
- Accepted as presenter at ISMB 2018 Comp Bio conference for deconvolution paper and published in the journal "Bioinformatics"  
<https://academic.oup.com/bioinformatics/article/34/13/i357/5045780>

**Software Systems Engineer, MITRE** September 2015 - August 2016

- Built web based electronic medical validation tool for Health Services Department as main engineer using Amazon Elastic Compute Cloud (AWS)

## Leadership and Awards

**Culture Leader, Freenome** January 2022

- Nominated as one of 10 company culture leader for exemplifying Freenome's values

**Patent for signal discovery, Freenome** April 2020

- Discovered novel RNA signal relating to 11 sets of specific miRNAs by building classifiers for colon cell proliferative disorders

# Education

## **Carnegie Mellon, M.S. Computational Biology**

September 2016 - December 2017

- GPA: 3.91, Courses: machine learning, statistics, simulation, regression, computational genomics, automation of biology, cancer biology

## **Tufts University, B.S. Biomedical Engineering**

September 2011 - May 2015

- GPA: 3.45, Courses: genetics, algorithms, quantum chemistry, medical imaging, machine programming and assembly, drug delivery, tissue engineering